WHAT IS CLAIMED IS:

1. An address translation device comprising:

an extraction unit extracting, from data received via a first network, a fixed identifier indicating a transmission source of the data;

a storage unit storing the fixed identifier and an address, in a second network, of the transmission source indicated by the fixed identifier by relating fixed identifier and the address each other;

a reading unit reading the address, in the second network, stored on the storage unit and related to the fixed identifier extracted by the extraction unit; and

a replacing unit replacing the address in the second network read by the reading unit with the source address of the data.

2. An address translation device according to Claim 1, further comprising:

an identifier extraction unit extracting a variable address of a terminal device connected to the first network and the fixed identifier, from the data received via the first network;

an identifier storage unit storing the variable address and the fixed identifier extracted by the identifier extraction unit by relating the variable

address and the fixed identifier;

a variable address acquisition unit acquiring, from the storage unit and the identifier storage unit, the variable address corresponding to a destination address of the data addressed to the terminal device, which contains, as a destination address, the address in the second network received via the second network; and

a rewriting unit rewriting the destination address of the received data into the variable address acquired by the variable address acquisition unit.

3. A packet translation device, interposed between an IPv6 (Internet Protocol version 6) network and an IPv4 (Internet Protocol version 4) network, for mutually translating an IPv4 packet and an IPv6 packet, comprising:

an extraction unit extracting, from the IPv6 packet, a fixed identifier indicating a transmission source of the IPv6 packet;

a storage unit storing the fixed identifier and an IPv4 address assigned to the transmission source by relating the fixed identifier and an IPv4 address each other;

a reading unit reading the IPv4 address stored on the storage unit and related to the fixed

identifier extracted by the extraction unit; and

a packet translating unit translating the IPv6 packet into the IPv4 packet with the IPv4 address read by the reading unit being set as a source address.

4. A packet translation device according to Claim 3, further comprising:

an identifier receiving unit receiving data containing a care-of address of an IPv6 terminal device and the fixed identifier indicating the IPv6 terminal device;

an identifier storage unit storing the care-of address and the fixed identifier that have been received by the identifier receiving unit by relating to the care-of address and the fixed identifier each other; and

a care-of address acquisition unit acquiring the care-of address corresponding to a destination address of the received IPv4 packet from the storage unit and from the identifier storage unit,

wherein the packet translating unit translates the IPv4 packet into an IPv6 packet with the care-of address acquired by the care-of address acquisition unit being set as a destination address.

5. A packet translation device according to

Claim 3 or 4, wherein the fixed identifier is a home address of the IPv6 terminal device.

6. A packet translation device according to Claim 3 or 4, wherein the storage unit further stores a port number by relating the port number, the address and the fixed identifier each other, and

wherein the reading unit reads the IPv4 address and the source port number stored on the storage unit and related to the fixed identifier extracted by the extraction unit.

7. A packet translation device according to Claim 6, wherein the care-of address acquisition unit acquires, from the storage unit and the identifier storage unit, a care-of address corresponding to the destination address and the destination port number of the IPv4 packet received.

8. A packet translation system comprising:

a packet translation device, interposed between an IPv6 (Internet Protocol version 6) network and an IPv4 (Internet Protocol version 4) network, for mutually translating an IPv4 packet and an IPv6 packet, comprising:

an extraction unit extracting, from the IPv6 packet, a fixed identifier indicating a transmission

source of the IPv6 packet;

a storage unit storing the fixed identifier and an IPv4 address assigned to the transmission source by relating the fixed identifier and an IPv4 address each other;

a reading unit reading the IPv4 address stored on the storage unit and related to the fixed identifier extracted by the extraction unit;

a packet translating unit translating the IPv6 packet into the IPv4 packet with the IPv4 address read by the reading unit being set as a source address;

an identifier receiving unit receiving data containing a care-of address of an IPv6 terminal device and the fixed identifier indicating the IPv6 terminal device;

an identifier storage unit storing the care-of address and the fixed identifier that have been received by the identifier receiving unit by relating the care-of address and the fixed identifier each other; and

a care-of address acquisition unit acquiring the care-of address corresponding to a destination address of the received IPv4 packet from the storage unit and the identifier storage unit,

wherein the packet translating unit translates the IPv4 packet into an IPv6 packet with the care-of

address acquired by the care-of address acquisition unit being set as a destination address;

an IPv6 terminal device transmitting, to a home agent set in the device itself, a registration message containing a care-of address and a home address that are assigned to the device itself; and

a home agent forwarding, upon receiving the registration message from the IPv6 terminal device, the received registration message to the packet translation device.

9. A packet translation system comprising:

a packet translation device, interposed between an IPv6 (Internet Protocol version 6) network and an IPv4 (Internet Protocol version 4) network, for mutually translating an IPv4 packet and an IPv6 packet, comprising:

an extraction unit extracting, from the IPv6 packet, a fixed identifier indicating a transmission source of the IPv6 packet;

a storage unit storing the fixed identifier and an IPv4 address assigned to the transmission source by relating the fixed identifier and an IPv4 address each other;

a reading unit reading the IPv4 address stored on the storage unit related to the fixed identifier extracted by the extraction unit;

a packet translating unit translating the IPv6 packet into the IPv4 packet with the IPv4 address read by the reading unit being set as a source address;

an identifier receiving unit receiving data containing a care-of address of an IPv6 terminal device and the fixed identifier indicating the IPv6 terminal device;

an identifier storage unit storing the care-of address and the fixed identifier that have been received by the identifier receiving unit by relating the care-of address and the fixed identifier each other; and

a care-of address acquisition unit acquiring the care-of address corresponding to a destination address of the received IPv4 packet from the storage unit and the identifier storage unit,

wherein the packet translating unit translates the IPv4 packet into an IPv6 packet with the care-of address acquired by the care-of address acquisition unit being set as a destination address; and

an IPv6 terminal device for transmitting, to the packet translation device set in the device itself, a registration message containing a care-of address and a home address that are assigned to the device itself.